

AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding; and

means for inputting said computed quantizer step ~~size, and the~~ size and a quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual re-encoding.

a 2. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the~~ size and a quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual re-encoding; and

means for selecting ~~the~~ a larger quantizer step size from said quantizer step size that is used in ~~re-encoding, and~~ re-encoding and said quantizer step size in the input compressed moving picture stream.

3. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the size and a~~ quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual re-encoding; and

means for applying weighting, according to image characteristics, to the quantizer step size that is used in said re-encoding, and adjusting that quantizer step size.

a 4. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the size and a~~ quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual re-encoding;

means for applying weighting, according to image characteristics, to the quantizer step size that is used in said re-encoding, and adjusting that quantizer step size; and

means for computing ~~the a~~ ratio of ~~the a~~ complexity measure in a prescribed period or number of pictures to ~~the a~~ complexity measure of ~~the an~~ object of re-encoding, using either or both of the quantizer step size and ~~the a~~ number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

5. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the~~ size and a quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual ~~re-encoding, and~~ re-encoding; and

means for computing respective complexity measures in two or more kinds of prescribed periods or numbers of pictures, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream.

a/ 6. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the~~ size and a quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual re-encoding;

means for computing ~~the~~ respective complexity measures in two or more kinds of prescribed periods or numbers of pictures, using either or both of the quantizer step size and ~~the a~~ number of bits of said input compressed moving picture stream;

means for outputting a prescribed complexity measure from said ~~plurality of~~ complexity measures;

means for computing the quantizer step size using said pre-set average bit rate and said output complexity measure;

means for computing ~~the~~ an average of ~~the~~ respective quantizer step sizes every prescribed period or number of pictures, according to ~~the~~ an encoding prediction mode of said input compressed moving picture stream, using the quantizer step size of said input compressed moving picture stream; and

means for computing an addition value for each encoding prediction mode, using said quantizer step size and said average quantizer step size, and computing an addition quantizer

step size in which an addition value has been added to said input compressed moving picture stream quantizer step ~~size~~, size,

wherein said addition quantizer step size is adjusted every prescribed period according to the difference (excess or deficiency) between ~~the~~ a target number of bits and ~~the~~ an actual number of bits, to give the quantizer step size that is used in re-encoding.

7. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the~~ size and a quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual ~~re-encoding~~, re-encoding;

means for computing, by using a maximum bit rate among ~~said~~ set bit rates and either or both of the quantizer step size and ~~the~~ a number of bits of said input compressed moving picture stream, the maximum bit rate quantizer step size at said maximum bit rate; and

means for taking said maximum bit rate quantizer step size and the quantizer step size that is used in said re-encoding as input, and outputting the quantizer step size that is used in re-encoding.

8. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the~~ size and a quantizer

step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual ~~re-encoding, and re-encoding;~~

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and a number of bits in either of said input compressed moving picture stream or a re-encoded compressed moving picture stream; and

means for outputting a prescribed complexity measure from said complexity measures.

9. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the size and~~ a quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual ~~re-encoding, re-encoding;~~

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the a~~ a number of bits in either of said input compressed moving picture stream or ~~said a~~ re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing the quantizer step size using said pre-set average bit rate and said output complexity ~~measure, measure.~~

wherein said quantizer step size is adjusted every prescribed period according to ~~the a~~ difference between ~~the a~~ target number of bits and ~~the an~~ actual number of bits, to give the quantizer step size that is used in said re-encoding.

10. (Currently amended) A compressed moving picture re-encoding apparatus that has an

input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, ~~and the size and a~~ quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual ~~re-encoding~~ re-encoding;

means for selecting ~~the a~~ larger quantizer step size from said quantizer step size that is used in ~~re-encoding, and re-encoding and~~ said quantizer step size in the input compressed moving picture ~~stream~~ stream;

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the a~~ number of bits in either of said input compressed moving picture stream or ~~said a~~ re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed period according to ~~the a~~ difference between ~~the a~~ target number of bits and ~~the an~~ actual number of bits, to give the quantizer step size that is used in said re-encoding.

11. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, ~~and the size and a~~ quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual ~~re-encoding; re-encoding;~~

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the a~~ number of bits in either of said input compressed moving picture stream or ~~said a~~ re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing the quantizer step size using said pre-set average bit rate and said output complexity ~~measure; measure,~~

wherein said quantizer step size is adjusted every prescribed period according to ~~the a~~ difference between ~~the a~~ target number of bits and ~~the an~~ actual number of bits, to give the quantizer step size that is used in said ~~re-encoding; and re-encoding, and~~

pictures from a picture ~~re-encoded~~ re-encoded at ~~the a~~ start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality of pictures including one image encoded within a frame, are used as a plurality of pictures used as said prescribed period or number of pictures.

12. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, ~~and the size and a~~ quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual ~~re-encoding; re-encoding;~~


means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer

step size and ~~the~~ a number of bits in either of said input compressed moving picture stream or ~~said~~ a re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity ~~measure;~~ measure.

wherein said quantizer step size is adjusted every prescribed period according to ~~the~~ a difference between ~~the~~ a target number of bits and ~~the~~ an actual number of bits, to give the quantizer step size that is used in said ~~re-encoding; and recording, and~~

 pictures from a picture re-encoded at ~~the~~ a start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality of pictures including one image ~~encoded~~ re-encoded within a frame, are used as a plurality of pictures used as said prescribed period or number of pictures.

13. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the~~ size and a quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual ~~re-encoding;~~ re-encoding;

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the~~ a number of bits in either of said input compressed moving picture stream or ~~said~~ a re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and

said output complexity ~~measure~~; measure.

wherein said quantizer step size is adjusted every prescribed period according to ~~the~~ a difference between ~~the~~ a target number of bits and ~~the~~ an actual number of bits, to give the quantizer step size that is used in said ~~re-encoding~~, and ~~re-encoding~~, and

a group of blocks into which a picture is divided is used for said prescribed period for adjusting a base quantizer step size according to excess or deficiency with respect to said target number of bits.

14. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and ~~the~~ size and a quantizer step size in said input compressed moving picture ~~stream~~, and ~~stream and~~ outputting a quantizer step size that is used in actual ~~re-encoding~~; re-encoding;

means for selecting ~~the~~ a larger quantizer step size from said quantizer step size that is used in ~~re-encoding~~, and ~~re-encoding and~~ said quantizer step size in the input compressed moving picture stream;

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the~~ a number of bits in either of said input compressed moving picture stream or ~~said~~ a re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity ~~measure~~; measure.

wherein said quantizer step size is adjusted every prescribed period according to ~~the~~ a difference between ~~the~~ a target number of bits and ~~the~~ an actual number of bits, to give the

quantizer step size that is used in said ~~re-encoding~~, re-encoding, and

a group of blocks into which a picture is divided is used for said prescribed period for adjusting a base quantizer step size according to excess or deficiency with respect to said target number of bits.

15. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, ~~and the~~ size and a quantizer step size in said input compressed moving picture ~~stream~~, ~~and~~ stream and outputting a quantizer step size that is used in actual re-encoding;

means for selecting ~~the~~ a larger quantizer step size from said quantizer step size that is used in ~~re-encoding~~, ~~and~~ re-encoding and said quantizer step size in the input compressed moving picture ~~stream~~, stream;

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the~~ a number of bits in either of said input compressed moving picture stream or ~~said~~ a re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity ~~measure~~, measure.

wherein said quantizer step size is adjusted every prescribed period according to ~~the~~ a difference between ~~the~~ a target number of bits and ~~the~~ an actual number of bits, to give the quantizer step size that is used in said ~~re-encoding~~, re-encoding.

wherein a group of blocks into which a picture is divided is used for said prescribed period for adjusting a base quantizer step size according to excess or deficiency with respect

to said target number of bits and pictures from a picture ~~re-encoded~~ re-encoded at the a start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality of pictures including one image encoded within a frame, are used as a plurality of pictures used as said prescribed period or number of pictures.

16. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the~~ size and a quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual ~~re-encoding;~~ re-encoding;

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the~~ a number of bits in either of said input compressed moving picture stream or ~~said~~ a re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity ~~measure;~~ measure.

wherein said quantizer step size is adjusted every prescribed period according to ~~the~~ a difference between ~~the~~ a target number of bits and ~~the~~ an actual number of bits, to give the quantizer step size that is used in said ~~re-encoding;~~ re-encoding.

a group of blocks into which a picture is divided is used for said prescribed period for adjusting a base quantizer step size according to excess or deficiency with respect to said target number of bits, and

pictures from a picture re-encoded at ~~the~~ a start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality

of pictures including one image ~~encoded~~ re-encoded within a frame, are used as a plurality of pictures used as said prescribed period or number of pictures.

17. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, ~~and the size and a~~ quantizer step size in said input compressed moving picture stream, and stream and outputting a quantizer step size that is used in actual re-encoding;

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the a~~ a number of bits in either of said input compressed moving picture stream or ~~said a~~ re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures;

means for computing said quantizer step size using said pre-set average bit rate and said output complexity measure, wherein said quantizer step size is adjusted every prescribed period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding; and

means for selecting a minimum complexity measure among said plurality of complexity measures.


18. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus

comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, ~~and the size and a~~ quantizer step size in said input compressed moving picture stream, ~~and stream and~~ outputting a quantizer step size that is used in actual re-encoding;

means for selecting ~~the a~~ larger quantizer step size from said quantizer step size that is used in ~~re-encoding, and re-encoding and~~ said quantizer step size in the input compressed moving picture stream;

 means for selecting the larger quantizer step size from said quantizer step size that is used in ~~re-encoding, and said quantizer step size in the input compressed moving picture stream~~;

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the a~~ number of bits in either of said input compressed moving picture stream or ~~said a~~ re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures;

means for computing said quantizer step size using said pre-set average bit rate and said output complexity measure, wherein said quantizer step size is adjusted every prescribed period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding; and

means for selecting a minimum complexity measure among said plurality of complexity measures.

19. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, ~~and the size and a~~ quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual ~~re-encoding; re-encoding;~~

means for selecting ~~the a~~ larger quantizer step size from said quantizer step size that is used in ~~re-encoding, and re-encoding and~~ said quantizer step size in the input compressed moving picture ~~stream; stream;~~

~~means for selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step size in the input compressed moving picture stream;~~

a
means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the a~~ number of bits in either of said input compressed moving picture stream or ~~said a~~ re-encoded compressed moving picture stream, wherein pictures from a picture re-encoded at the start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality of pictures including one image encoded within a frame, are used as a plurality of pictures used as said prescribed period or number of pictures;

means for outputting a prescribed complexity measure from a plurality of said complexity measures;

means for computing said quantizer step size using said pre-set average bit rate and said output complexity measure, wherein said quantizer step size is adjusted every prescribed period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding; and

means for selecting a minimum complexity measure among said plurality of complexity measures.

20. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 9, further comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

21. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 10, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

22. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 11, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

23. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 12, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

24. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 13, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

25. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 14, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

26. (Currently amended) The compressed moving picture re-encoding apparatus according to

claim 15, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

27. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 16, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

28. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 17, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

29. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 18, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

30. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 19, further comprising:

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size.

31. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 9, further comprising: comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

32. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 10, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

33. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 11, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

34. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 12, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

Q1
35. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 13, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and ~~the~~ a number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

36. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 14, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that

quantizer step size.

37. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 15, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

38. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 16, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

39. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 17, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding,

using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

40. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 18, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

a means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

41. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 19, further ~~comprising~~, comprising:

means for applying weighting, according to ~~the~~ image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity measure computation, and adjusting that quantizer step size; and

means for computing ~~the~~ a ratio of ~~the~~ respective complexity measures in a prescribed period or number of pictures to ~~the~~ a complexity measure of ~~the~~ an object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

42. (Currently amended) The compressed moving picture re-encoding apparatus according to claim 1, wherein a threshold setting is made for a prescribed plurality of quantizer step sizes with respect to ~~said~~ an addition quantizer step size.

43. (Currently amended) A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step ~~size, and the size and a~~ quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual ~~re-encoding; re-encoding;~~

means for computing, by using a maximum bit rate among ~~said~~ set bit rates and either or both of the quantizer step size and ~~the a~~ number of bits of said input compressed moving picture stream, ~~the a~~ maximum bit rate quantizer step size at said maximum bit rate; and

means for taking said maximum bit rate quantizer step size and the quantizer step size that is used in said re-encoding as input, and outputting the quantizer step size that is used in ~~re-encoding; re-encoding.~~

said means for computing the maximum bit rate quantizer step size ~~is comprises a~~ rate control that satisfies ~~the a~~ ratio of said an input bit stream bit rate to said maximum bit rate with respect to ~~the a~~ number of bits in ~~the a~~ prescribed period or number of pictures of said input compressed moving picture stream.

44. (Original claim) The compressed moving picture re-encoding apparatus according to claim 1, wherein a minimum value is set for said quantizer step size that is used in re-encoding.

45. (Currently amended) A compressed moving picture re-encoding method that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding method comprising:

~~a step of~~ computing a quantizer step size that is used in said re-encoding; and

~~a step of~~ inputting said computed quantizer step ~~size, and the size and a~~ quantizer step

size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual re-encoding.

46. (Currently amended) A compressed moving picture re-encoding method that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding method comprising:

~~a step of~~ computing a quantizer step size that is used in said re-encoding;

~~a step of~~ inputting said computed quantizer step size, ~~and the~~ size and ~~a~~ quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual re-encoding; and

~~a step of~~ selecting ~~the~~ a larger quantizer step size from said quantizer step size that is used in ~~re-encoding, and~~ re-encoding and said quantizer step size in the input compressed moving picture stream.

47. (Currently amended) A compressed moving picture re-encoding method that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding method comprising:

~~a step of~~ computing a quantizer step size that is used in said re-encoding;

~~a step of~~ inputting said computed quantizer step size, ~~and the~~ size and ~~a~~ quantizer step size in said input compressed moving picture ~~stream, and~~ stream and outputting a quantizer step size that is used in actual ~~re-encoding; re-encoding;~~

~~a step of~~ computing ~~the~~ respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the~~ a number of bits in either of said input compressed moving picture stream or ~~said~~ a re-encoded compressed moving picture stream;

~~a step of~~ outputting a prescribed complexity measure from a plurality of said complexity measures; and

~~a step of~~ computing said quantizer step size using said pre-set average bit rate and said output complexity ~~measure; measure.~~

wherein said quantizer step size is adjusted every prescribed period according to ~~the~~ a difference between ~~the~~ a target number of bits and ~~the~~ an actual number of bits, to give the quantizer step size that is used in said re-encoding.

48. (Currently amended) A compressed moving picture re-encoding method that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding method comprising:

~~a step of~~ computing a quantizer step size that is used in said re-encoding;

~~a step of~~ inputting said computed quantizer step size, ~~and the size and a~~ size and a quantizer step size in said input compressed moving picture ~~stream, and stream and~~ outputting a quantizer step size that is used in actual re-encoding;

~~a step of~~ selecting ~~the~~ a larger quantizer step size from said quantizer step size that is used in ~~re-encoding, and re-encoding and~~ said quantizer step size in the input compressed moving picture stream;

~~a step of~~ computing ~~the~~ respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and ~~the~~ a number of bits in either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

~~a step of~~ outputting a prescribed complexity measure from a plurality of said complexity measures; and

~~a step of~~ computing said quantizer step size using said pre-set average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed period according to ~~the~~ a difference between ~~the~~ a target number of bits and ~~the~~ an actual number of bits, to give the quantizer step size that is used in said re-encoding.
